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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,631	06/05/2001	Ow Chee Moon	4368US (99-0959)	5108

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EXAMINER

CLARK, SHEILA V

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 03/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/874,631

Applicant(s)

Moon et al

Examiner

Sheila V. Clark

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above, claim(s) 43-49 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-33 is/are allowed.
- 6) ☒ Claim(s) 1-3, 12-14, 34-36, and 50-53 is/are rejected.
- 7) ☒ Claim(s) 4-11 and 37-42 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some\* c) ☐ None of:

- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
- ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5

18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other: \_\_\_\_\_

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 12-14, 34-36, 50-53 are rejected under 35 U.S.C. 102(b) as being anticipated by Khandros et al.

Khandros et al shows in for example figures 11 and 12 a semiconductor device assembly comprising a first semiconductor die 420 having a plurality of bond pads 328 over the active surface. A flexible dielectric interposer shown at 324 and 438 having an insulating spacer portion 440 and including a first plurality of electrical contacts connected to chip bond pads on the first side of said interposer and communication with conductive hoes 437 having a plurality of electrical contacts 446 therein ( see 46 and 91 in figure 7). Figure 7 and 11 shows said interposer secured over the active surface and back side of chip 320. Discrete conductive elements 90 are shown in figure 7. Underfill 26 is taught ( see col. 10). Adhesive layer 70 is shown ( see col. 8) and figures 4, 7 and 11 show said interposer wrapping around the die and thereby having a length and width of the die. Higher level packaging system (88)393 is shown connected to conductive elements 90 and col. 1, line 63 discusses that the invention may relate to a computer.

Claims 1-3, 12-14, 34-36, 50-53 are rejected.

Claims 15-33 are considered allowable over the prior art of cited of record.

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Claims 4, 5, 6-11, 37, 38-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Bertin et al, Kim et al, Mukerj et al, and Nakatsuka are cited to show wrapped interposers.

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-42 and 50-53, drawn to a device, classified in class 257, subclass 1+.
- II. Claims 43-49 are, drawn to a method, classified in class 438, subclass 106+.

2. The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process. For example, as opposed to wrapping the substrate around the die, the substrate could already be folded and the die inserted into the gap created..

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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4. During a telephone conversation with Examiner David Zarneke and David Stott on December 19, 2001 a provisional election was made without traverse to prosecute the invention of group I, claims 1-42 and 50-53. Affirmation of this election must be made by applicant in replying to this Office action. Claims 43-49 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner S.V. Clark whose telephone number is (703) 308-4924.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee, can be reached on (703) 308-1690. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 or 7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

March 22, 2002

  
SHEILA V. CLARK  
PRIMARY EXAMINER